



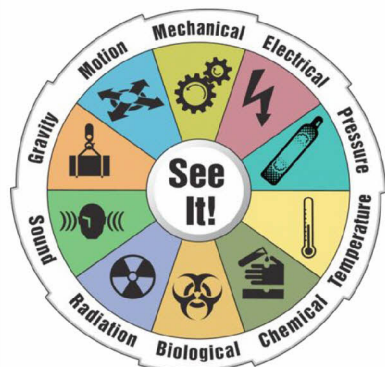
Electrician uses SWA on Switching Job



Location: #2 Substation

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Tenets of Operations DISPLAYED

4. Always follow safe work practices and procedures
9. Always follow written procedures for high risk or unusual situations

Always remember to do your LPSA – because we care about you!

Situation:

On Monday, July 9, 2012, the Electrical Distribution Coordinator and the Distribution Head Operator met to begin a routine Electrical Switch Card to isolate a 12 kV-bus at #2 Substation. The Team reviewed the card and pinned the Refinery's Main Electrical One Line Map located in the Utilities Map Room. As part of their review of the switching procedure, R-4050, the Team reviewed and analyzed the potential loading on the transformers down stream of the Substation to determine whether the electrical switching could cause the electrical equipment to exceed its design limits once on a single line feed. The Team found that the 2.4 kV electrical switchgear would be overloaded if they were to take the system from double ended feed to single line feed.

The crew stopped the switching activities and notified Maintenance that the equipment would not be available for the scheduled PM.

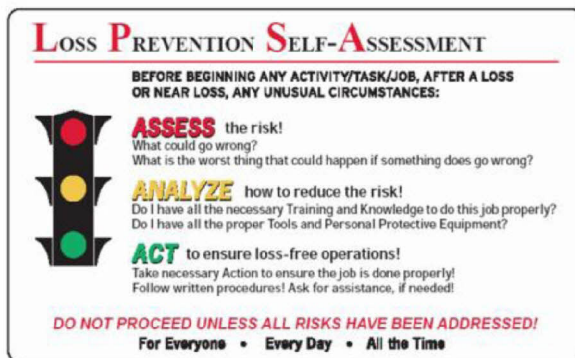
In the past, the switchgear and substation had been taken to a single line feed many times over the past 40+ years. The last switching operation occurred in 2010 and was executed without any overload issues. However, in May of 2009, the Refinery process changed requiring Operations to run both of the K-300 Natural Gas Compressors. This electrical system was not designed to run both compressors at the same time on single line feed.

What Worked Well:

- The Switching Team followed all written procedures to assure safe operation of the equipment.
- The Team was told that conditions had not changed prior to proceeding. However, once they found a discrepancy between design capabilities and actual loading, the team used their Stop Work Authority.
- The Team notified the affected personnel that the conditions had changed (i.e., Area Operations, Utilities Operations, and Maintenance).

Recommendations:

- Utilities OA will work with the Area Operations to understand the system limitations.
- Area Operation Division is reviewing their loss of power contingency plans.



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